REMARKS

Claims 1, 3 through 14, and 16 through 25 remain pending in the present application. Claims 1, 14, 16, 17, 23, 24, and 25 have been amended herein. Claims 1, 14, and 23 were each amended to better define the invention as discussed below. Claims 16 and 17 were amended to include the term "graph" as used in claim 14. Claim 17 was also amended to correct an inadvertent typographical error by replacing the word "a" with "an". Claims 24 and 25 were amended to correct inadvertent typographical errors by replacing the word "comprises" with "comprising".

REJECTION UNDER 35 U.S.C. § 102

Claims 1-26 are rejected under 35 U.S.C. § 102(e) as being anticipated by Nakano, et al. (U.S. Pat. No. 6,636,802). A claim is said to be anticipated where each and every limitation of the claim can be found in a single reference. Applicant respectfully submits that the Nakano '802 patent fails to disclose the invention of the present application. Therefore, Applicant respectfully traverses this rejection.

The Nakano '802 patent discloses a device utilizing cartographic files (i.e., maps) for route planning, matching a user's current location to a point on a map (i.e., map matching), and the like. The device includes a terminal device 1, such as a vehicle navigation system. The device also includes a central station 2 connected to the terminal device 1 through a communication network 3. Cartographic files are managed in a hierarchical tree structure. "Parent Units" (i.e., cartographic files higher in the hierarchy) represent larger geographic areas. "Children Units" (i.e., cartographic files lower in the hierarchy) represent geographic portions of the "Parent Units." Specifically,

one "Child Unit" represents 1/64 of the geographic area of a "Parent Unit." (See Figs. 2 and 4; col. 14 – 16.) Figure 5 of the Nakano '802 patent shows the tree for managing the cartographic files, and as shown, the position of a cartographic file in the tree depends on the amount of geographic area represented in the particular cartographic file. (See Fig. 5; col. 16, ll. 11 – 57.) The cartographic files include data representative of the roads in that particular area. The roads are represented by node data, which represent road intersections or other points on a road, and link data, which represent roads connecting two intersections. (Col. 26, ll. 61 – 64.) In operation, the device navigates between a road in one cartographic file to a road in another cartographic file on the basis of the coordinates of neighboring nodes of the neighboring cartographic files.

However, the Nakano '802 patent <u>fails</u> to disclose or suggest a method for <u>updating data</u> in a navigation database. Furthermore, the Nakano '802 patent <u>fails</u> to disclose or suggest such a method wherein a logical representation of road topology is built by constructing a graph <u>with a structure representing road topology</u> surrounding roads or intersections as claimed in the present application.

In contradistinction, claim 1, as amended, claims a method for identifying road sections in a navigation database that includes the step of receiving a database update identifying at least one road intersection. The method also includes constructing a logical representation of the road topology surrounding the at least one road intersection by building a graph with a structure representative of the road topology surrounding the at least one road intersection, wherein nodes of the graph represent road intersections and links of the graph represent road segments. Also, the method includes identifying

the at least one road intersection in the navigation database by comparing the logical representation to a logical representation of the navigation database. As such, Applicant respectfully requests reconsideration of the rejection of claim 1 as explained in greater detail below.

Furthermore, claim 14, as amended, claims a method for applying an update to a navigation database that includes the step of receiving an update instruction specifying two nodes and a link, where the nodes represent road intersections and the link represents a road segment interconnecting the two nodes. The method also includes identifying an existing node in the navigation database which corresponds to at least one of the specified nodes using a logical pattern matching operation by constructing a graph with a structure representative of the road topology in the vicinity of at least one of the specified nodes and comparing the graph to a logical representation of the navigational database. Additionally, the method includes classifying each of the specified nodes based on its relation to at least one of an existing node or an existing link in the navigation database. Also, the method includes applying the update instruction in accordance with an ordered operations rule set. As such, Applicant respectfully requests reconsideration of the rejection of claim 14 as explained in greater detail below.

Still further, claim 23, as amended, claims a method for generating a database renewal for a navigation database that includes the step of providing a list of links to be updated in the navigation database, where each link is represented as two road intersections interconnected by a road segment. The method also includes constructing a logical representation for each road intersection uniquely specified in the list of links,

such that the logical representation is indicative of the road topology in the vicinity of specified road intersection by building a graph with a structure representing the road topology in the vicinity of the at least one road intersection, where nodes of the graph represent road intersections and links of the graph represent road segments. In addition, the method includes formulating an ordered set of update instructions for the list of links to be updated in the navigation database, such that each update instruction references at least one logical representation. As such, Applicant respectfully requests reconsideration of the rejection of claim 23 as explained in greater detail below.

NAKANO '802 DOES NOT MAKE GRAPH WITH STRUCTURE REPRESENTING ROAD TOPOLOGY

Independent claims 1, 14 and 23 have been amended in a way that clearly distinguishes the present invention from the Nakano '802 patent. More specifically, the Nakano '802 patent merely discloses a device utilizing cartographic files arranged in a tree wherein the position of a cartographic file in the tree depends on the amount of geographic area represented in the particular cartographic file. However, the device of the Nakano '802 patent lacks a method for identifying road sections in a navigation database including building a graph with a structure representing the road topology surrounding at least one road intersection as claimed in claim 1. Likewise, the device of the Nakano '802 patent lacks a method for applying an update to a navigation database including constructing a graph with a structure representing the road topology in the vicinity of at least one specified node as claimed in claim 14. Furthermore, the device of the Nakano '802 patent lacks a method for generating a database renewal for a navigation database including building a graph with a structure representing the road

topology in the vicinity of at least one road intersection as claimed in claim 23. Accordingly, Applicant respectfully submits that claims 1, 14, and 23 are each allowable over the rejection based on 35 U.S.C. § 102(e).

NAKANO '802 DEVICE DOES NOT UPDATE DATA IN A NAVIGATION DATABASE

Furthermore, the Nakano '802 patent merely discloses a device that navigates between a road in one cartographic file to a road in another, neighboring, cartographic file on the basis of the coordinates of neighboring nodes of the neighboring cartographic files. In the Nakano '802 patent, nodes and links included in the cartographic files are not updated within a file. Accordingly, the Nakano '802 patent fails to disclose a method including applying an update instruction for two nodes and a link to a navigation database in accordance with an ordered operations rule set as claimed in claim 14. Likewise, the Nakano '802 patent fails to disclose a method including formulating an ordered set of update instructions for a list of links to be updated in a navigation database as claimed in claim 23. For these reasons, it is respectfully submitted that claims 14 and 23 are allowable over the rejection based on 35 U.S.C. § 102(e).

CLAIMS 1 AND 3 – 13 ARE NOT ANTICIPATED BY THE NAKANO '802 PATENT

The Nakano '802 patent fails to disclose a method for identifying road sections in a navigation database that includes the steps of receiving a database update identifying at least one road intersection, constructing a logical representation of the road topology surrounding the at least one road intersection by building a graph with a structure representative of the road topology surrounding the at least one road intersection,

wherein nodes of the graph represent road intersections and links of the graph represent road segments, and identifying the at least one road intersection in the navigation database by comparing the logical representation to a logical representation of the navigation database as claimed in claim 1. Therefore, it is respectfully submitted that claim 1 is allowable over the rejection under 35 U.S.C. § 102(e). Claims 3 through 13 are each ultimately dependent upon claim 1 and add perfecting limitations. Therefore, it is respectfully submitted that claims 3 through 13 are also allowable over the rejection under 35 U.S.C. § 102(e).

CLAIMS 14 AND 16 – 22 ARE NOT ANTICIPATED BY THE NAKANO '802 PATENT

The Nakano '802 patent fails to disclose a method for applying an update to a navigation database that includes the steps of receiving an update instruction specifying two nodes and a link, where the nodes represent road intersections and the link represents a road segment interconnecting the two nodes, identifying an existing node in the navigation database which corresponds to at least one of the specified nodes using a logical pattern matching operation by constructing a graph with a structure representative of the road topology in the vicinity of at least one of the specified nodes and comparing the graph to a logical representation of the navigational database, classifying each of the specified nodes based on its relation to at least one of an existing node or an existing link in the navigation database, and applying the update instruction in accordance with an ordered operations rule set as claimed in claim 14. Therefore, it is respectfully submitted that claim 14 is allowable over the rejection under 35 U.S.C. § 102(e). Claims 16 through 22 are each ultimately dependent upon claim 14

and add perfecting limitations. Therefore, it is respectfully submitted that claims 16 through 22 are also allowable over the rejection under 35 U.S.C. § 102(e).

CLAIMS 23 - 25 ARE NOT ANTICIPATED BY THE NAKANO '802 PATENT

The Nakano '802 patent fails to disclose a method for generating a database renewal for a navigation database that includes the steps of providing a list of links to be updated in the navigation database, where each link is represented as two road intersections interconnected by a road segment, constructing a logical representation for each road intersection uniquely specified in the list of links, such that the logical representation is indicative of the road topology in the vicinity of specified road intersection by building a graph with a structure representing the road topology in the vicinity of the at least one road intersection, where nodes of the graph represent road intersections and links of the graph represent road segments, and formulating an ordered set of update instructions for the list of links to be updated in the navigation database, such that each update instruction references at least one logical representation. Therefore, it is respectfully submitted that claim 23 is allowable over the rejection under 35 U.S.C. § 102(e). Claims 24 and 25 are each ultimately dependent upon claim 23 and add perfecting limitations. Therefore, it is respectfully submitted that claims 24 and 25 are also allowable over the rejection under 35 U.S.C. § 102(e).

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests

that the Examiner reconsider and withdraw all presently outstanding rejections. It is

believed that a full and complete response has been made to the outstanding Office

Action, and as such, the present application is in condition for allowance. Thus, prompt

and favorable consideration of this amendment is respectfully requested. If the

Examiner believes that personal communication will expedite prosecution of this

application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: September 15, 2005   By:

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